

Marshall Space Flight Center (MSFC)  
NASA DEVELOP  
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Southeast Ecological Forecasting

Utilizing NASA EOS to Map Longleaf Pine Ecosystems and Aid in the Long-Term Management, Restoration and Conservation Strategies.

Team Members:  
Marie-therese Enga - Project Lead University of Arkansas  
Cory Manberg, UAHuntsville  
Amanda Myhand, University of North Alabama

Subtitle: Conducted by NASA DEVELOP students at Marshall Space Flight Center (MSFC) Huntsville, AL

**Introductions:**

I'm Marie and I'm a graduate student at the University of Arkansas

Hi I'm Cory Manberg and I'm an Earth Systems Science major at the University of Alabama in Huntsville

Hi, I'm Amanda Myhand from the University of North Alabama

**Script:**

Cory: OK, the longleaf pine is a keystone species that supports biodiversity in the southeastern United States and provides a habitat for endangered species like the Red-cockaded wood pecker

Marie: Before Humans and Westerners moved out in this area, longleaf pine dominated, but now that we suppress wildfires these other loblolly types of trees have taken over with other invasive species, really limiting the habitat. It used to be the dominant species but we have 2% of what used to be left.

Marie: So here I am using the wind model to help me determine where the smoke will go. So if there is a fire here, the wind is pointed that way the smoke is going to go over here but then a couple of months later the wind is going that way so the smoke is going

to go over there. So I need to use this to figure out where we can burn longleaf pine and not have the smoke go into a city.

Amanda So this is a population density map of the southeastern United States. You can see that the more populated areas are in blue, such as Atlanta and Birmingham, and areas with a lower population density are in dark yellow or light yellow. We thought it was important to include population density as a parameter in our model because of the importance of being away from population centers for burning.

Marie: After considering the smoke location factors and factors about population, we also need to consider where trees already are to help us figure out where the best sites are for our partners to focus on putting new restoration sites.

**Music: iMovie '11 "Gilde Long"**